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Briana C. Buchholz
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Briana C. Buchholz
Signature

7/24/01
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF

CHIANG ET AL.

APPLICATION NO: 09/801,852

FILED: MARCH 8, 2001

FOR: DIRECT PRODUCTION OF DESACETYLCEPHALOSPORIN C

Assistant Commissioner for Patents
Washington, D.C. 20231

**SUBMISSION OF SEQUENCE LISTING
INCLUDING STATEMENT OF VERIFICATION**

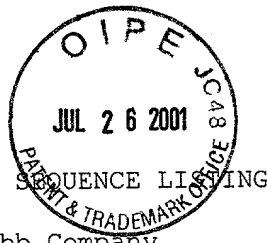
Sir:

Applicants hereby provide a Computer Readable Form of the Sequence Listing as well as the Paper Copy thereof. The undersigned states that the Paper Copy and the Computer Readable Form, submitted in accordance with 37 CFR §1.821(c) and (e), respectively, are the same. This submission contains no new matter.

Respectfully submitted,

Bristol-Myers Squibb Company
Patent Department
P.O. Box 4000
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<110> Bristol-Myers Squibb Company
Chiang, Shu-Jen
Jonathan, Basch

<120> DIRECT PRODUCTION OF DESACETYLCEPHALOSPORIN C

<130> ON0163

<140> 09/801,852

<141> 2001-03-08

<150> 60/188,033

<151> 2000-03-09

<160> 15

<170> PatentIn version 3.0

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<211> 1716

<212> DNA

<213> Rhodosporidium toruloides

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Tyr Ile His Gly Gly Gly Tyr Ala Phe Gly Asp Ala Ser Thr Gly Ser
145 150 155 160
Asp Phe Ala Ala Phe Thr Lys His Thr Gly Thr Lys Met Val Val Val
165 170 175
Asn Leu Gln Tyr Arg Leu Gly Ser Phe Gly Phe Leu Ala Gly Gln Ala
180 185 190
Met Lys Asp Tyr Gly Val Thr Asn Ala Gly Leu Leu Asp Gln Gln Phe
195 200 205
Ala Leu Gln Trp Val Gln Gln His Val Ser Lys Phe Gly Gly Asn Pro
210 215 220
Asp His Val Thr Ile Trp Gly Glu Ser Ala Gly Ala Gly Ser Val Met
225 230 235 240
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Lys Lys Pro Leu Phe His Ala Ala Ile Gly Ser Ser Val Phe Leu Pro
260 265 270
Tyr Gln Ala Lys Tyr Asn Ser Pro Phe Ala Glu Leu Leu Tyr Ser Gln
275 280 285
Leu Val Ser Ala Thr Asn Cys Thr Lys Ala Ala Ser Ser Phe Ala Cys
290 295 300
Leu Glu Ala Val Asp Ala Ala Ala Leu Ala Ala Ala Gly Val Lys Asn
305 310 315 320
Ser Ala Ala Phe Pro Phe Gly Phe Trp Ser Tyr Val Pro Val Val Asp
325 330 335
Gly Thr Phe Leu Thr Glu Arg Ala Ser Leu Leu Leu Ala Lys Gly Lys
340 345 350
Lys Asn Leu Asn Gly Asn Leu Phe Thr Gly Ile Asn Asn Leu Asp Glu
355 360 365
Gly Phe Ile Phe Thr Asp Ala Thr Ile Gln Asn Asp Thr Ile Ser Asp
370 375 380
Gln Ser Gln Arg Val Ser Gln Phe Asp Arg Leu Leu Ala Gly Leu Phe
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Pro Tyr Ile Thr Ser Glu Glu Arg Gln Ala Val Ala Lys Gln Tyr Pro
405 410 415

Ile Ser Asp Ala Pro Ser Lys Gly Asn Thr Phe Ser Arg Ile Ser Ala
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Val Ile Ala Asp Ser Thr Phe Val Cys Pro Thr Tyr Trp Thr Ala Glu
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His His Ala Thr Asp Asn Ser Tyr Tyr Ile Gly Ser Ile Trp Asn Gly
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Lys Lys Ser Val Ser Ser Val Gln Ser Phe Asp Gly Ala Leu Gly Gly
485 490 495

Phe Ile Glu Thr Phe Asn Pro Asn Asn Asn Ala Ala Asn Lys Thr Ile
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Asn Pro Tyr Trp Pro Thr Phe Asp Ser Gly Lys Gln Leu Leu Phe Asn
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Thr His Lys Ala Val Arg Asn Ala Thr Glu Tyr Gly Pro Ile Cys Trp
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Pro Ala Ser Glu Gly Thr Asn Thr Thr Lys Gly Leu Pro Pro Pro Ser
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Asn Ser Ser Ser Ser Ala Pro Gln Lys Gln Ala Ser Glu Asp Cys Leu
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Phe Leu Asn Val Val Ala Pro Ala Gly Ser Cys Glu Gly Asp Asn Leu
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Pro Val Leu Val Tyr Ile His Gly Gly Gly Tyr Ala Phe Gly Asp Ala
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Met Val Val Val Asn Leu Gln Tyr Arg Leu Gly Ser Phe Gly Phe Leu
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Ala Gly Gln Ala Met Lys Asp Tyr Gly Val Thr Asn Ala Gly Leu Leu
165 170 175

Asp Gln Gln Phe Ala Leu Gln Trp Val Gln Gln His Val Ser Lys Phe
180 185 190

Gly Gly Asn Pro Asp His Val Thr Ile Trp Gly Glu Ser Ala Gly Ala
195 200 205

Gly Ser Val Met Asn Gln Ile Ile Ala Asn Gly Gly Asn Thr Val Lys
210 215 220

Ala Leu Gly Leu Lys Lys Pro Leu Phe His Ala Ala Ile Gly Ser Ser
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Leu Tyr Ser Gln Leu Val Ser Ala Thr Asn Cys Thr Lys Ala Ala Ser
260 265 270

Ser Phe Ala Cys Leu Glu Ala Val Asp Ala Ala Ala Leu Ala Ala Ala
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Pro Val Val Asp Gly Thr Phe Leu Thr Glu Arg Ala Ser Leu Leu Leu
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Asn Leu Asp Glu Gly Phe Ile Phe Thr Asp Ala Thr Ile Gln Asn Asp
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Thr Ile Ser Asp Gln Ser Gln Arg Val Ser Gln Phe Asp Arg Leu Leu
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Ala Gly Leu Phe Pro Tyr Ile Thr Ser Glu Glu Arg Gln Ala Val Ala
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Lys Gln Tyr Pro Ile Ser Asp Ala Pro Ser Lys Gly Asn Thr Phe Ser
 385 390 395 400

Arg Ile Ser Ala Val Ile Ala Asp Ser Thr Phe Val Cys Pro Thr Tyr
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Trp Thr Ala Glu Ala Phe Gly Ser Ser Ala His Lys Gly Leu Phe Asp
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Tyr Ala Pro Ala His His Ala Thr Asp Asn Ser Tyr Tyr Ile Gly Ser
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Ile Trp Asn Gly Lys Lys Ser Val Ser Ser Val Gln Ser Phe Asp Gly
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Ala Leu Gly Gly Phe Ile Glu Thr Phe Asn Pro Asn Asn Asn Ala Ala
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<213> Rhodosporidium toruloides

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